

June 2023

OPPORTUNITIES TO REDUCE PLASTIC POLLUTION:

Policy Recommendations
& Best Practices for the
Virginia Litter Fund

**CLEAN
VIRGINIA
WATERWAYS**

Opportunities to Reduce Plastic Pollution:

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Acknowledgements

The authors are thankful for the valuable assistance from Clean Virginia Waterways' interns Emily Robertson and Lucy Ellis, both students of Longwood University. Support for this research report and policy paper comes from the Ocean Conservancy's Small Grant Program. No state or federal funds supported the writing of this report.



For reference purposes, this document can be cited as

Huntington, Z. & Register, K. (2023). Opportunities to Reduce Plastic Pollution: Policy Recommendations & Best Practices for the Virginia Litter Fund. A Research Report & Policy Paper prepared by Clean Virginia Waterways, Farmville, Virginia.

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About Clean Virginia Waterways

Founded in 1995, Clean Virginia Waterways (CVW) is dedicated to decreasing plastic pollution, litter and marine debris through research, cleanup events, building collaborations, and advocating for effective public policies. CVW is affiliated with the Ocean Conservancy in Washington D.C. CVW is funded through grants, gifts, sponsorships, and workshop fees.

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Publication design by Ampersand Design, Richmond, Virginia

Cover photo by Zach Huntington. Litter in Little Hunting Creek, Fairfax County, VA.

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Introduction

This report analyzes the state of Virginia's litter tax and compares it with other states that have similar taxes. The goal of this report is to assist policymakers as they consider ways to increase the capacity of Virginia's communities to address urgent problems associated with the large amount of single-use packaging waste (mostly plastic) that is currently generated in Virginia, and challenges related to the predicted increases in this type of waste.

This report concludes with seven recommendations to increase the effectiveness of Virginia's Litter Control and Recycling Fund (Litter Fund).

Key Findings

- Virginia's litter tax generates substantially less support for local litter prevention and recycling programs when compared to all other states with active litter taxes.
- Virginia's Litter Control and Recycling Fund generates the lowest revenue per capita of any state using a similar system.
- The production of plastic has grown over 744% since the Virginia litter tax was passed in 1976 and production is projected to double by 2040, with almost half of all plastic produced intended for single use.
- Virginia has the opportunity to implement best practices from around the country to improve the Litter Control and Recycling Fund, cementing the Commonwealth as a national leader in effectively addressing the plastic pollution crisis.
- There is strong bipartisan support among Virginia voters for public policies to reduce plastic ocean pollution.
- Litter taxes are one prong of the multi-prong approach necessary to reduce the flow of plastic pollution and litter in our waterways and communities but does not negate the need to implement policies proven to reduce plastic pollution such as extended producer responsibility and recycling refund (bottle bill) programs.
- Litter from soft drinks, soda water, carbonated water, water, juice, sports drinks, and tea (all single-use beverage containers) comprise about 23% of all litter found in Virginia according to data from the 2022 International Coastal Cleanup. But only soft drinks are included in Virginia's soft drink excise tax which helps fund the Virginia Litter Fund.

Litter Taxes General Background

Litter taxes and fees are a valuable tool to fund litter prevention programs and removal of litter once it has reached the environment. These taxes and fees support community clean ups, youth education, solid waste infrastructure, and other valuable programs. Litter taxes are one facet of the multi-facet approach necessary to reduce the flow of plastic pollution and litter in our waterways and communities. Litter taxes and associated programs cannot replace the necessary work of implementing proven policies to reduce plastic pollution such as recycling refund (bottle bills) programs and extended producer responsibility programs.

How litter taxes and fees are implemented and collected varies among states and localities and the level of impact of the programs they support have a significant amount of variability.

The first litter tax was signed into law in Washington state in 1972. This law was the beverage industry's response to state legislators' interest in enacting legislation similar to Oregon's newly signed "bottle bill" (Carter-Yamauchi & Jaworowski, 1988) which mandates a refundable deposit on single-use beverage bottles to improve recycling and reuse (Bottle Bill Resource Guide, 2023). The beverage industry formed a committee called the "Industry

for a Quality Environment" (Carter-Yamauchi & Jaworowski, 1988). This industry-created committee proposed a law that would fund anti-litter education, enforcement, and litter pick up through "fines and bail forfeitures." With input from the Industry for a Quality Environment, Washington legislators decided on a 0.015% tax on frequently littered items (Carter-Yamauchi & Jaworowski, 1988). That law has since become one of the most impactful in the country generating \$14 million in FY2021 and over \$15 million FY2022 to fund statewide and local litter prevention programs (Ryser & Oline, 2022).

In the years following, states across the country began to enact litter taxes with the support of the beverage industry. Progress on bottle bills waned in the late 1980s with California becoming the tenth state in 1986 to enact such a bill. The State of Hawai'i enacted the most recent bottle deposit refund program in 2005 (Deposit beverage container program, 2023).

A state-by-state analysis of litter taxes can be found on the following pages along with an overview of Virginia's Litter Fund.

Virginia’s Litter Tax

Virginia’s General Assembly passed a litter tax in 1976, but the annual tax was not set until 1980. See Appendix A for the text of the Virginia litter tax law. In 1976, the Virginia Litter Control Act directed the Department of Highways and Transportation to conduct a survey to determine types of litter commonly found in the Commonwealth (Runkle, 1976). This survey was completed by research analyst Stephen N. Runkle. In the last three months of 1979, at the direction of the Virginia General Assembly, the Virginia Department of Conservation and Economic Development’s Division of Litter Control commissioned Runkle to conduct additional litter surveys (Runkle, 1979). This research formed the basis for Virginia’s Litter Control

and Recycling Fund – a system where grants are provided to localities based on population and road miles. While the Virginia law to levy a litter tax was passed in 1976, the rate amount was set in 1980, and 1981 was the first year that the Virginia Litter Control and Recycling Fund (hereafter referred to as the “Virginia Litter Fund”) had any revenue.

Virginia manufacturers, distributors, and retailers of frequently littered products pay the litter tax (Table 1).

Table 1. Adapted from <https://www.tax.virginia.gov/litter-tax>. Copyright 2020 by Virginia Department of Taxation

Virginia Litter Tax Payment Structure as of 2023

| \$20 Annual Litter Tax paid by: | Additional \$30 Annual Litter Tax paid by: |
|--|---|
| Manufacturers, Wholesalers, Distributors or retailers of <ul style="list-style-type: none">■ Food for human or pet consumption■ Tobacco products■ Alcohol■ Newspapers and magazines■ Auto parts■ Paper products■ Glass and metal containers■ Plastic or fiber containers made of petrochemicals■ Cleaning agents■ Non-drug store sundries | Per location where the following items are sold: <ul style="list-style-type: none">■ Groceries■ Soft Drinks■ Beer |

In 1980, the legislature set the annual tax at \$10 for manufacturers, wholesalers, distributors and retailers of consumer products, and \$15 for each location where groceries, soft drinks, and beer are sold. This annual tax is deposited into the Litter Control and Recycling Trust Fund and “the guidelines for these grants are overseen by the Litter Control and Recycling Fund Advisory Board and DEQ provides program and financial administration of the annual grants” (Virginia Department of Environmental Quality, 2022).

Additionally, the Virginia litter tax law did not include language to “index” it to inflation nor to periodically or automatically adjust the fee to keep pace with inflation, so the \$10 and \$15 annual fees did not change for 40 years.

In 2020, the litter tax was increased for the first time to \$20 and \$30, as described below. Had the tax been adjusted for inflation (or indexed to automatically rise with inflation) they would now be \$37 and \$73 (CPI inflation calculator, n.d.) annually per business.

The litter tax is one of three funding mechanisms for the Virginia Litter Fund. Additional funding comes from 2% of the excise tax on beer and wine coolers and a set fee based on gross receipt sales of soft drinks (Table 2) (Miscellaneous Taxes, 1977).

Table 2. Adapted from <https://law.lis.virginia.gov/vacodepopularnames/miscellaneous-taxes/>. Copyright 2023 Commonwealth of Virginia

Virginia Soft Drink Excise Tax Structure from 1981 to 2023

| |
|---|
| \$50 if gross receipts do not exceed \$100,000 |
| \$100 if gross receipts exceed \$100,000 but do not exceed \$250,000 |
| \$250 if gross receipts exceed \$250,000 but do not exceed \$500,000 |
| \$750 if gross receipts exceed \$500,000 but do not exceed \$1,000,000 |
| \$1,500 if gross receipts exceed \$1,000,000 but do not exceed \$3,000,000 |
| \$3,000 if gross receipts exceed \$3,000,000 but do not exceed \$5,000,000 |
| \$4,500 if gross receipts exceed \$5,000,000 but do not exceed \$10,000,000 |
| \$7,200 if gross receipts exceed \$10,000,000 but do not exceed \$25,000,000 |
| \$18,000 if gross receipts exceed \$25,000,000 but do not exceed \$50,000,000 |
| \$33,000 if gross receipts exceed \$50,000,000 |

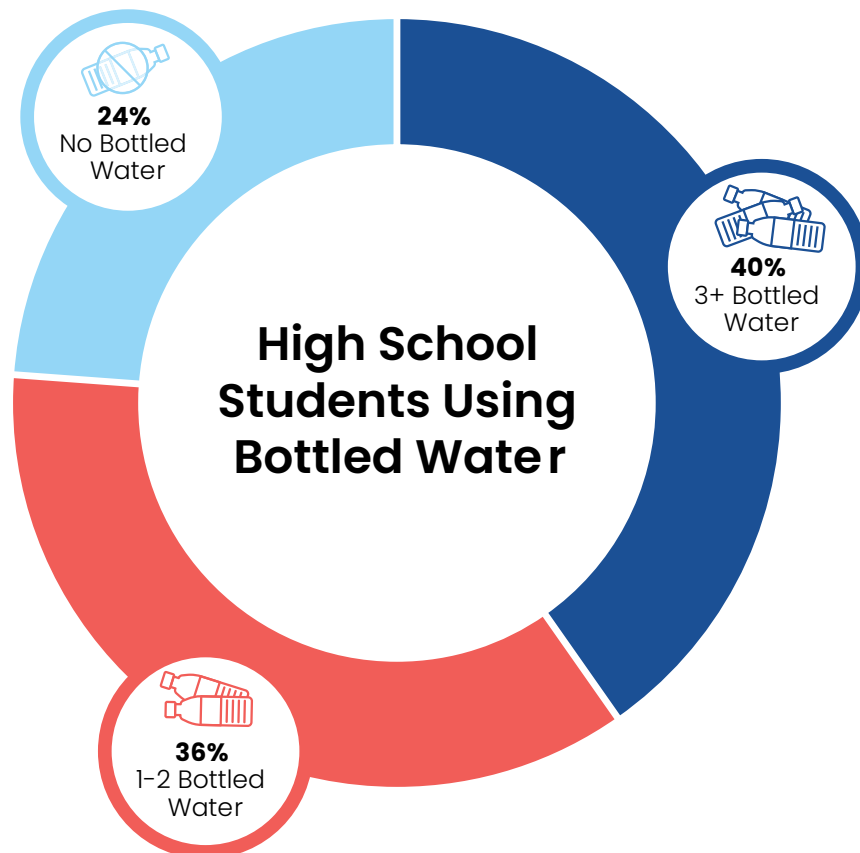
Virginia Soft Drink Excise Tax

In FY 2021, the soft drink excise tax generated \$233,426. Like the litter tax, the soft drink excise tax has not been raised since its approval by Virginia's legislature in 1977. Had the soft drink excise tax kept up with inflation the \$50 fee would now be \$252 (CPI inflation calculator, n.d.). Table 2 shows the Virginia Soft Drink Excise Tax Structure as of 2023.

The soft drink excise tax does not include beverages that are now popular, but did not exist in 1977 like bottled water (sparkling, flavored, and still), sports drinks, teas, coffee, energy drinks, and other common beverages.

According to researchers with the Prince William County Community Marine Debris Project, 40% of students at a high school in Prince William County confirmed that they used three or more single-use bottles of water a day during the school week. An additional 36% students indicated that they use one or two bottled waters daily (Figure 1).

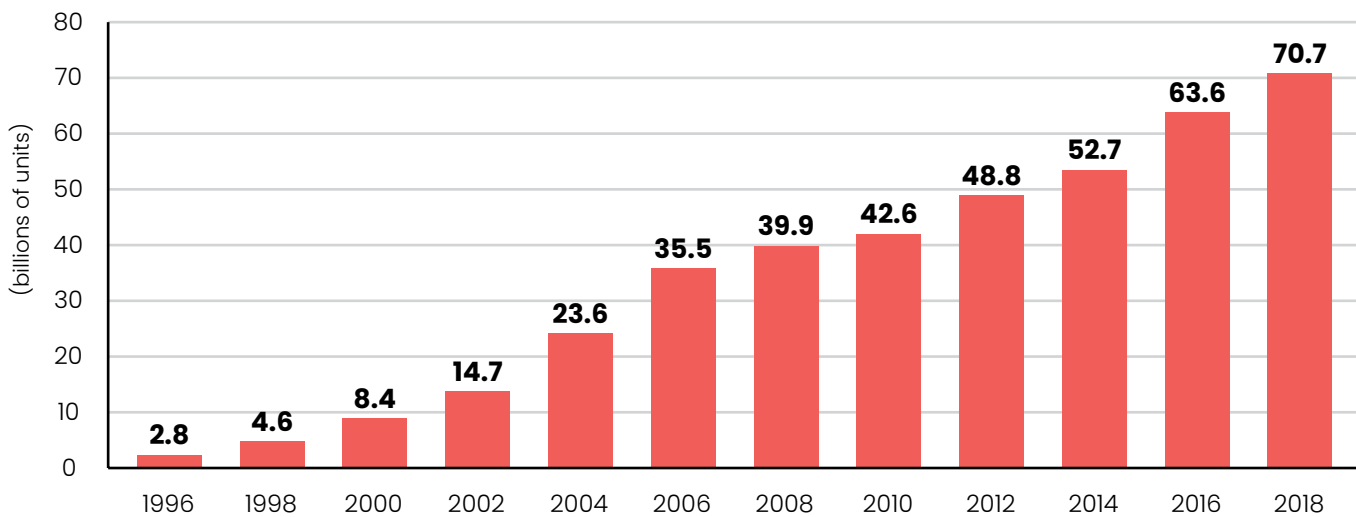
Figure 1 Adapted from George Mason University's Prince William County Community Marine Debris Project. <https://kpwb.org/prince-william-county-community-marine-debris-project/>



In 1996, there were 2.8 billion single-use plastic water bottles sold in the United States. In 2018, there were over 70 billion single-use plastic water bottles sold in the United States (Figure 2). Despite being one of the most common beverages sold, plastic water bottle sales do not contribute to Virginia soft drink excise tax.

Figure 2. Adapted from the Container Recycling Institute. <https://www.container-recycling.org/index.php/plastic-data> Copyright Container Recycling Institute

U.S. Plastic Bottled Water Sales, 1996–2018



Virginia’s Litter Control and Recycling Fund

The Governor appoints the members of Virginia’s Litter Fund Board (managed by the Virginia Department of Environmental Quality). This board consists of five members: one representative for each of the three types of entities required to pay the litter taxes, one local litter or recycling coordinator, and one member from the general public. The fund board meets each year as necessary to track the status of the Fund and the progress of the annual grant programs.

Eligibility for Funding

Municipal and county governments throughout Virginia run programs to decrease littering and increase recycling. While local taxpayers pay most of the expenses of these programs, counties and municipalities also receive funding from the Virginia Litter Fund.

DEQ provides funds for litter prevention and recycling grants to all eligible cities, counties, and incorporated towns in Virginia through a non-competitive, formulaic grant program based on

population and road miles. An eligible program must include at least two elements of a comprehensive litter prevention and recycling program including recycling, youth education, cleanups, law-enforcement, public communications, and Adopt-a-Spot programs sponsored locally. In addition to the non-competitive grant program, the fund also offers competitive grants available only to cities, counties and incorporated towns. Grant program guidelines can be found at <https://www.deq.virginia.gov/land-waste/litter-prevention/grant-programs>

Many local and statewide nonprofit organizations provide extensive programming and research to decrease the sources of plastic pollution, and in organizing volunteers to conduct litter cleanups. These nonprofit organizations are not eligible for funding from the Litter Fund. Likewise, Virginia's academic institutions conducting research on microplastics and best management practices for solid waste are not eligible for funding support from the Virginia litter tax revenues.

Community Matching

In FY2021, the Litter Fund distributed \$1,708,156 in grant funds to 305 localities that were matched at a rate of 885% with \$16,818,943 from local governments through a combination of cash and non-monetary services (Virginia Department of Environmental Quality [DEQ], 2022). This grant money plays a critical role in community cleanups, recycling drop off locations, and educational activities. In 2021, communities hosted nearly 3,500 cleanup events with 32,000 volunteers. Close to 15,000 Virginia school children attended 565 presentations. About

57% of distributed grant funds were used for litter prevention and the other 43% was used to support recycling services (DEQ, 2022).

Adjusting the Litter Tax

Virginia supported these successful programs over the course of 40 years without any increase in funding, with some years even seeing a decrease in funding. See Appendix B for a year-by-year revenue summary for the Virginia Litter Fund. As Virginia's population grew, these organizations, volunteers, and employees were asked to provide more services, to more residents, with fewer resources. In 1998, total revenue for the Litter Fund was \$1,848,705 with a population of 6.79 million residents (Quick Facts Virginia, n.d.). Eleven years later (2019) the fund revenue was only \$1,700,611 (DEQ, 2022) even though the Virginia population reached 8.6 million (Quick Facts Virginia, n.d.).

In 2020, the Virginia General Assembly passed HB 1154 increasing the litter tax for the first time in 40 years. This legislation doubled the litter tax to its current rate of \$20 per business location, and an additional \$30 for each location that manufactures, sells, or distributes frequently littered products. The increase in litter tax has increased revenue for the fund to \$3,370,222 for FY 22. If the litter tax had been adjusted for inflation (or indexed to automatically rise with inflation) they would now be \$37 and \$73 (CPI inflation calculator, n.d.).

Litter Taxes Across the U.S.

Other states and localities around the country have crafted similar policies that generate significantly more funding for critical programs, and often these other states have fewer residents than Virginia. Virginia’s litter tax generates the lowest revenue per capita of any state using a litter tax system (Table 3).

“Virginia’s litter tax generates the lowest revenue per capita of any state using a litter tax system.”

Per Capita Breakdown of Litter Tax Funding in Virginia and Other States

| Location | Litter Tax Per Capita Fiscal Year 2021 |
|--------------|--|
| Fort Worth | \$6.41 |
| New Jersey | \$2.16 |
| Washington | \$1.82 |
| Ohio | \$1.17 |
| Rhode Island | \$0.91 |
| Tennessee | \$0.79 |
| New Mexico | \$0.37 |
| Virginia | \$0.33 |

Table 3: Data collected by authors on March 11, 2023

Litter Taxes Across the US

Below is a summary (in alphabetical order) of litter taxes and fees from around the United States including revenue and overview of programs supported.

Nebraska

Nebraska has a population of 1.92 million (Quick Facts Nebraska, n.d.) and has a litter fee that generates about \$1.5 million every year. The litter fee is imposed at a rate of \$175 per \$1 million of gross proceeds from the sale of litter-generating products. Funds are used for anti-litter, public education, waste reduction, and cleanup programs. The disbursement of funds is determined by the Environmental Quality Council (Nebraska Department of Environment and Energy, n.d.).

New Jersey

New Jersey has a population of 8.85 million (Quick Facts New Jersey, n.d.) --not much larger than Virginia's 8.6 million. New Jersey's Litter Control Fee generates over \$20 million annually. This revenue is generated through a 0.03% fee on all gross receipts from wholesale sales of litter-generating products and 0.0225% fee on all gross receipts from retail sales of litter-generating products. This fee provides funding for litter abatement, cleanup, enforcement, and education programs across 21 counties and 558 municipalities in New Jersey. These grant funds are distributed similar to Virginia based on population, road miles, and housing units. The Litter Control Fee also funds the New Jersey Clean Communities Council which assists localities with their litter abatement programs and helps create

statewide anti-littering and zero waste campaigns (New Jersey Treasury, 2022).

New Jersey has a few exemptions to reduce the fee burden on stores with lower revenues. Retailers with less than \$500k in annual sales of the products most likely to generate litter are exempt from the fee as well as restaurants if 10% of their annual sales are from food prepared for consumption off site or 50% or more of their activity is selling meals or food prepared at the location (New Jersey Treasury, 2022).

New Mexico

New Mexico has a population of 2.12 million and their Litter Control and Beautification Fund distributed \$790,801.35 to 45 communities in New Mexico in FY2023. The New Mexico Litter Control and Beautification Fund is funded through a fee of \$0.50 cents added onto annual vehicle registration. Generated funds are distributed by New Mexico Clean and Beautiful. (New Mexico Tourism Department Clean and Beautiful, 2023).

Ohio

Ohio has a population of 11.78 million (Quick Facts Ohio, n.d.) and the state's litter tax generates over \$10 million annually to fund the Recycling and Litter Grant Program. In FY 2022, the Ohio EPA awarded over \$5 million in grant funds to approximately 90 recipients with over half of that total (\$3.2 million) targeted to litter prevention programs. Some of the additional notable programs include \$300,000 for rubber stripping equipment for tire recycling; \$200,000 to purchase the equipment necessary to expand local recycling capacity; \$80,000 for a truck

to be used for a county school recycling program; and \$51,316 for a glass crusher (Ohio Environmental Protection Agency, 2022).

Every corporation (other than financial institutions) in Ohio must pay the Tier I litter tax. In addition, corporations that manufacture, sell, or distribute commonly littered items are subject to the Tier II litter tax. The Tier I tax is determined by the corporation's net income and net worth, whichever produces the higher tax. Corporations are taxed at 0.014% of the corporation's net worth or 0.11% of the first \$50,000 of taxable income in addition to a 0.22% tax on income above \$50,000. The maximum Tier I tax liability is \$5,000. The Tier II tax is determined with the same formula and has a \$5,000 cap. Corporations can reduce their litter tax liability with cash donations to local recycling and litter collection efforts (King, Atzenhoefer, & McPherson, 1990).

Rhode Island

Rhode Island has a population of 1.09 million (Quick Facts Rhode Island, n.d.) and their Litter Control Tax (also referred to as a litter permit fee) raises almost \$1 million annually—but this tax does not pay for litter reduction or cleanup programs (State of Rhode Island Executive Summary, 2023). All sales tax permit holders that sell food and beverages are subject to the Rhode Island litter tax (Beverage Container & Litter Tax, 2022). Daniel McKee, Rhode Island's governor, has suggested ending the state's litter tax in his FY2024 proposed budget. Governor McKee is proposing \$100,000 in dedicated funding for Keep Rhody Litter Free, a statewide anti-litter program focused on public education and community cleanups of state parks, beaches, and other areas

managed by Rhode Island's government (State of Rhode Island Executive Summary, 2023).

Tennessee

Tennessee, with a population of 6.77 million, has a Litter Grant Program funded by 0.4% of a 1.9% tax on gross receipts of carbonated beverages, and \$0.50 of the \$4.29 excise tax on a barrel of beer. In FY 2021, these taxes generated \$7,807,259.58. As of 2017, Tennessee state law has mandated that at least \$5.5 million of the revenue generated through those taxes is used for the Litter Grant Program with \$3,842,937 for litter pick up operations and \$1,657,063 for litter prevention education. This program has enabled the state to invest in effective education opportunities that can have an impact even beyond Tennessee. The State Department of Transportation partnered with the Tennessee Aquarium to create a river litter exhibit in 2021 and a second exhibit in 2022 to show the connection between plastic pollution, water quality and environmental health (TDOT, 2021).

Similar to Virginia, the grants are distributed based on population and road miles.

In FY 2021, every county in Tennessee received at least \$44,200 from the Litter Grant Program, including Pickett County, with a population of only 5,001 (TDOT, 2021). For reference, Clarke County, Virginia with a population of 14,881 (Quick Facts Virginia, n.d.) received \$7,981 in FY 2021 (Clarke County Litter Committee Meeting Minutes, 2022).

Revenue generated from the Tennessee litter taxes enables the state to provide extra help to its most vulnerable communities. There are nine counties in Tennessee that have been identified as “economically distressed.” These communities often lack the funding for necessary solid waste infrastructure. The Litter Grant provided these communities with a combined \$402,800 in FY 2021 to assist with litter removal and solid waste services (TDOT, 2021).

Washington

In FY2022, Washington’s litter tax generated over \$15 million (Ryser & Oline, 2022) in a state with a population of 7.64 million (Quick Facts Washington, n.d.) - only slightly smaller than Virginia. Their litter tax funds the Waste Reduction, Recycling, and Litter Control Account (WRRLCA) which distributes grants for a variety of programs statewide, including \$3.6 million between 2021 and 2023 for community litter cleanups. This tax is levied through a \$0.015% fee on the sale of items most commonly found in roadside litter (Washington State Department of Ecology, n.d.). This tax is based on net sales, so when a vendor sells more items subject to the litter tax, their tax payment increases.

The WRRLCA funds the Ecology Youth Corps which pays teenagers \$14.49 per hour to work Monday through Thursday during the summer on litter removal crews providing job training, teamwork, and communication skills along with environmental education. This program also funds adult litter crews with an \$18 per hour wage, full-time work from March through November (Washington State Department of Ecology, n.d.).

This tax enables Washington State to dedicate \$800,000 annually for a statewide anti-litter campaign including a toolkit to ensure continuity in campaigns across the state. These campaigns include a statewide “cover your load” week with heightened enforcement and targeted education about the importance of covering debris in truck beds (Washington State Department of Ecology, n.d.).

Washington exempts food and beverage sales that are purchased and consumed at the business location, but to-go orders and delivery sales are covered by the litter tax (Litter Tax, 2022).



Local Litter Taxes and Fees

In addition to states, several local governments have taken steps to support ongoing litter prevention programs with sustainable funding. Below are a few examples.

Fort Worth, Texas

Fort Worth Texas has a population of 892,221 and adds an Environmental Protection Fee to every resident and business’s monthly water bill to allocate \$6 million for litter and illegal dumping clean up services. This fee was raised for the first time in 26 years in 2022, raising revenue from \$4.9 million to

\$16.1 million (City of Fort Worth, 2022). Rates are seen in Table 4 below.

Fort Worth’s Solid Waste Fund currently spends \$4.4 million each year to address litter and illegal dumping costs. The extra revenue generated from the rate increase will instead allow these costs to be covered by the Environmental Fund, with any excess remaining in the account to address additional environmental costs in an emergency. The varying level of rate increase across the four categories of payees will help to make the distribution of liability more equitable (City of Fort Worth, 2022).

Environmental Fee Structure for Forth Worth, Texas in 1996 and 2022

| | 1996 Monthly Fee | 2022 Monthly Fee |
|-------------------|------------------|------------------|
| Residence | \$0.50 | \$1.50 |
| Business | \$10 | \$30 |
| Industrial | \$70 | \$105 |
| Nonprofit | \$0.75 | \$2.25 |

Table 4: Adapted from <https://www.forthworthtexas.gov/news/2022/8/budget-environmental>. Copyright 2022 City of Fort Worth

Oakland, California

In 2006, the City of Oakland (current population 433,800) adopted Ordinance 12727, enacting an Excess Litter Fee on Fast Food Businesses, Convenience Markets, Gasoline Station Markets and Liquor Stores. This fee enables Oakland to dedicate \$750,000 to the Excess Litter Fleet, a city program to remove litter in public areas (City of Oakland Legistar, 2020). The fee targets these types of businesses specifically as the ones generating a disproportionate amount of the items found littered around the community. The City's expressed goal is to not only fund the collection and disposal of the trash, but to ultimately prevent trash from entering the storm runoff network and potentially impacting the performance of city systems (City of Oakland, n.d.).

The annual excess litter fee varies depending on business type as seen in Table 5.

Excess Litter Fees in Oakland, California

Large businesses with annual gross receipts of \$1,000,000 or more **pay \$3,815.00.**

Medium businesses with annual gross receipts between \$500,000 and \$999,999 **pay \$910.00.**

Small businesses with annual gross receipts between \$5,000 and \$499,999 **pay \$230.00.**

Mobile Food Vendors **pay \$100.00 per permit.**

Businesses with annual gross receipts between \$0 and \$4,999 are **exempt from the fee.**

Table 5: Adapted from <https://www.oaklandca.gov/services/finance-dept-liens-and-excess-litter-fee>. Copyright City of Oakland n.d.



Cigarette Litter Fees

According to data collected by volunteers during the International Coastal Cleanup, cigarette butts are the number one source of littered items. This is true in Virginia and in most US cities as well (Trash Information and Data for Education and Solutions, 2023). Research first done in 1999 by Clean Virginia Waterways revealed that the white fibers in cigarette filters are not biodegradable cotton as many people believe, but instead are a type of plastic, cellulose acetate (Register, 2000). In addition, CVW and others' studies have found the toxins in cigarette butts negatively impact small animals at the bottom of the food chain. Communities are increasingly looking at ways to combat this frequent type of litter.

A paper published in the International Journal of Environmental Research and Public Health states that cigarette butts and other smoking-related litter (cigar tips, packaging) impose "substantial negative economic externalities" on cities in the U.S. The authors document that litter mitigation activities to address smoking-related litter are a measurable burden on city budgets, and can cost in the millions of dollars for larger cities. They estimated \$27 million annually for Chicago to nearly \$80 million in New York (Schneider et al., 2020).

Hawai'i (Proposed)

Multiple Hawaiian legislators have introduced bills to create a new cigarette excise tax that would allocate the tax revenue to a cigarette litter abatement special fund. This fund would be used for cigarette litter abatement. The most recent iteration of this legislation was HI SB511 in 2022. If passed, proceeds from the litter abatement fee would fund outreach and education to prevent improper cigarette litter disposal; costs to collect and remove cigarette litter from public lands and public spaces; and reimburse counties for costs of collecting and removing cigarette litter on public lands and public spaces within the county's control (HI Legislature, 2022).

San Francisco, California

In 2009, San Francisco implemented a "Cigarette Litter Abatement Fee Ordinance" placing a \$0.20 fee on the purchase price of a pack of cigarettes. The revenue generated from this fee is used to offset the costs San Francisco absorbs to clean up cigarette litter around the city (estimated at \$6 million in 2009) (SF Cigarette Litter Abatement Fee Ordinance, 2015). This fee has increased incrementally to its current rate of



\$1.25 per pack. The fee's revenue (\$3.2 million in San Francisco's FY 2022–2023 budget) covers the following: costs of administration, collection and enforcement of the Cigarette Litter Abatement Ordinance; public outreach and education to curb improper cigarette litter disposal; costs to collect and remove cigarette litter from City sidewalks, gutters and public spaces (Budget and Appropriation Ordinance, 2022).

Baltimore, Maryland

In November 2022, the City of Baltimore filed a lawsuit against prominent cigarette manufacturers and distributors (Phillip Morris, Altria Group, RJ Reynolds Tobacco Company, British American Tobacco, Liggett Group, and The George J. Falter Company) to recoup costs incurred by the city to clean up cigarette filter litter. Baltimore is taking this action because the city is spending over \$5 million annually to remove blockages in the city's sewage and drainage pipes caused by cigarette filters (City of Baltimore Files a First of its Kind Lawsuit Against Tobacco Companies for Cigarette Filter Waste, 2022).

Spain

In January 2023, Spain's environmental regulations were updated to include a clause that tobacco companies will be forced to foot the bill for cleaning up the millions of cigarette butts that smokers discard every year in Spain (Chatterjee, 2023). As of the publication of this report, it was unclear how this would be accomplished. It is mentioned here as other government agencies may be looking at Spain's success and challenges in implementing this regulation.



Cigarette butts are the most common source of litter in Virginia. Photos © CVW.

Discussion

Plastic Waste: a growing problem

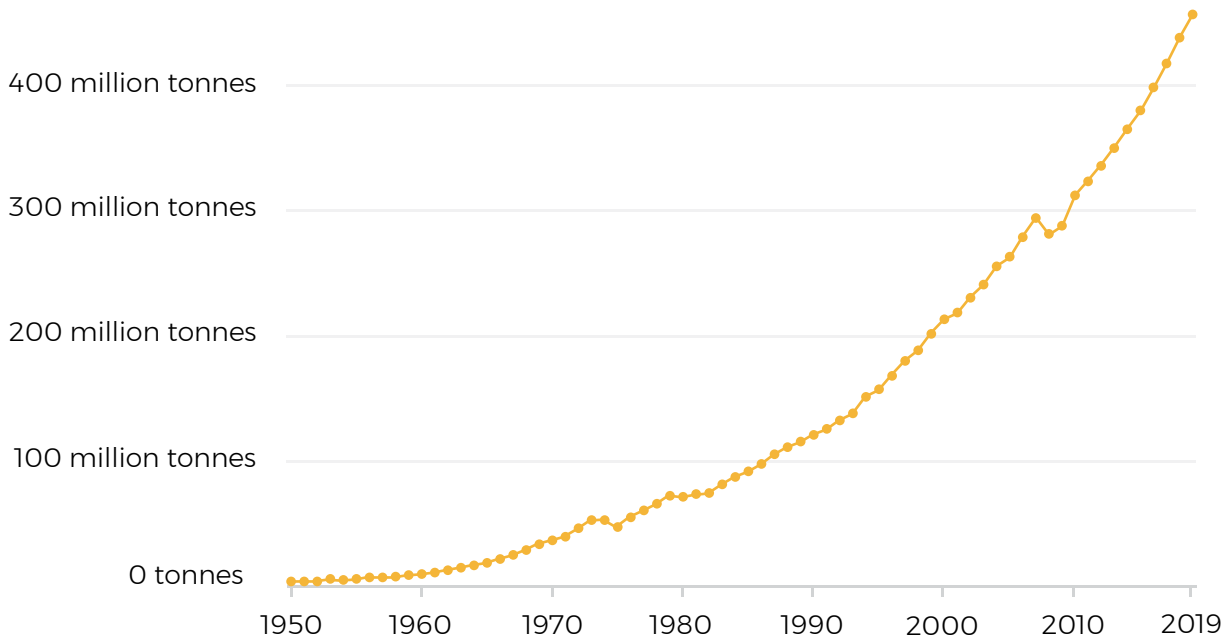
In the 1950s, there were fewer than two million tons of plastic produced annually. In 2021, there were 456 million tons produced, representing a 22,700% increase (Figure 3) (Ritchie & Roser, 2022). By 2050, the fossil fuel industry projects plastic production to surpass 1,100 million tons; Virginia is ill equipped to handle this influx in plastic pollution (Our Planet is Choking on Plastic, n.d.)

Figure 3: Global plastic production by year.

Retrieved from <http://ourworldindata.org/plastic-pollution>. Copyright Our World in Data 2022

Global Plastic Production

Plastic production refers to the annual production of polymer resin and fibers.



It has become evident after 50 years of community cleanups supported by litter taxes and fees, that cleanups alone will not stop the plastic pollution crisis. While cleanups of plastic waste found in Virginia’s waterways, agricultural fields, communities, and parks will remain necessary, the real work will be in decreasing the total amount of single-use plastic produced. When Virginia’s litter tax was first implemented, Virginia’s population was less than 5.5 million (Quick Facts Virginia, n.d.). By 2020, Virginia’s population had grown by over 3 million people and single-use plastics became ubiquitous. Virginia is still struggling to control plastic pollution despite innovative programs from across the Commonwealth. For the litter tax to be most effective it needs to be paired with proven policies to reduce plastic pollution including refund recycling programs, extended producer responsibility, and targeted reduction of single-use plastic items.

The sources and types of litter in Virginia

The priorities identified in the Virginia Marine Debris Reduction Plan were based on data about the sources, impacts, and solutions to the most frequent and deadly types of litter and marine debris. According to data collected by volunteers during the International Coastal Cleanup in Virginia (organized annually by Clean Virginia Waterways), cigarette butts are the most frequently found type of litter. The remainder of the Top Ten list is dominated by single-use packaging from the things Virginians eat and drink as seen in Table 6. All the items on the Top Ten list are made of plastic with the exception of glass bottles and aluminum cans.

Litter composition has drastically changed since Stephen Runkle’s 1970s litter studies in Virginia. The most common item found in 1976 and 1979 were aluminum cans. Today beverage containers of varied materials are found with the most common being plastic.

Top Ten Items found at Virginia Cleanups in 2022

- 1 Cigarette butts
- 2 Food wrappers (candy, chips, etc.)
- 3 Beverage bottles (plastics)
- 4 Bottle caps (plastic & metal)
- 5 Beverage cans
- 6 Grocery bags (plastic)
- 7 Cups and plates (plastic & foam)
- 8 Foam packaging
- 9 Beverage bottles (glass)
- 10 Straws/stirrers (plastic)

Table 6: Adapted from Virginia International Coastal Cleanup. Copyright Clean Virginia Waterways/Ocean Conservancy 2023

Growing Concern and Support for Public Policies to Reduce Litter

According to a 2022 statewide survey of Virginia voters, there is great concern about plastic pollution and bipartisan support for policies that will reduce the production and consumption of single-use plastics. While the survey did not specifically address the Virginia litter tax, it did find that 71% of voters support manufactures paying for recycling. In addition, the survey revealed that 65% of voters support recycling refund programs (bottle bills), and 63% support bans on expanded polystyrene food and beverage packaging. Voters also supported a litter abatement fee on packs of cigarettes (McKay, Register, and Raabe, 2022).

| Policies to Reduce Plastic Pollution | Supported by Virginia Voters |
|---|-------------------------------------|
| Require less plastic in packaging | 76% of voters |
| Shift the costs of recycling programs off of community taxpayers and onto producers | 71% of voters |
| Deposits on beverage bottles and cans | 65% of voters |
| Cigarette litter fee | 64% of voters |
| Ban single-use plastic bags | 63% of voters |
| Ban single-use plastic grocery and shopping bags | 61% of voters |

Litter in Stormwater: Expensive to Remove

When the Virginia Litter Tax started, there were fewer legal requirements for communities to prevent litter from entering stormwater. Now, communities are required to prevent pollutants from entering stormwater. In 1987, the Clean Water Act was amended to include urban stormwater runoff through a program that regulates municipal separate storm sewer systems – referred to as “MS4”. In Virginia, there are 116 MS4 permits (105 Phase II for smaller cities, and 11 Phase I for larger cities) which are regulated under the Virginia Stormwater Management Act through the Virginia Stormwater Management Program (VSMP) (Municipal Separate Storm Sewer System (MS4) Permit – Stormwater, n.d.). The Virginia Department of Environmental Quality administers this program. Permits require MS4 owners/operators to implement a series of programs to reduce the discharge of pollutants in order to protect the water quality of nearby streams, rivers, wetlands, and bays. This includes keeping litter and trash out of storm drains (Virginia DEQ, 2022). Stormwater professionals who manage their local MS4 programs are increasingly looking to trash trapping technologies to reduce the amount of plastic waste entering aquatic systems. These technologies include retrofitting storm drains, in-stream collection, and end-of-pipe collection systems. All of these technologies require substantial investments by communities, and have high annual maintenance expenses. For example, a Bandalong in-stream litter collection trap was installed in 2020 in Fairfax County, Virginia at a total cost surpassing \$690,000 with an estimated annual maintenance of \$45,000 (Fairfax County, 2020).

A Plan to Reduce Marine Debris and Litter

The Virginia Marine Debris Reduction Plan (VMDRP) is centered on the development and maintenance of strategic partnerships to address marine debris in Virginia, and is structured into goals, strategies, objectives, and actions. The first goal of the VMDRP is to, “Understand, Prevent, and Mitigate the Impacts of Consumer Debris and Single-use Plastics.” There are 60 actions in the plan, 22 of which are dedicated to reducing consumer debris including food- and beverage-related litter, cigarette butts, plastic bags, balloons and other common and deadly debris items (Register, McKay, Witmer, 2021).



The need to improve the Virginia Litter Fund is mentioned on page eight of the VMDRP. In addition, strengthening the Virginia Litter Fund will help meet several Actions in the VMDRP:

Action 1.3.1.1 This action in the VMDRP identified the need for improved state policies on litter mitigation and building awareness of existing policy options that will reduce plastic pollution. This is being achieved partly through this report by identifying best practices relating to litter taxes and developing recommendations that can be implemented to improve Virginia's Litter Fund.

Action 1.1.1.6 of the VMDRP is focused on exploring the feasibility of a statewide unified litter prevention campaign. Increased funding for the Litter Fund would enable Virginia to implement a comprehensive statewide unified litter prevention campaign based on social marketing principles.

Action 1.4.1.1 of the VMDRP is to increase participation in, and the number of cleanup events that remove litter and marine debris. The Litter Fund is one of the main funding mechanisms for government-supported waterway/community cleanups. Increased funding for the Litter Control and Recycling Fund would enable more cleanup events and more volunteers participating.

Raising the Virginia Litter Tax

Despite a modest increase in 2020 in the Virginia Litter Tax, funding for local litter prevention programs continues to lag behind the progress other states have made towards an appropriately-scaled litter tax. Virginia is one of only two states using a litter tax system where the revenue is not

entirely connected to annual gross receipts. When the tax is based on gross receipts, it reduces the burden on small businesses while stores with large sales volumes pay more into their state's litter fund (Table 7). Currently, the Virginia litter tax requires a small revenue mom-and-pop store to pay the same amount as a large box store.

Table 7: Data collected by authors on March 11, 2023

Litter Taxes by State:
Source of Revenue, Total Revenue and Other Features
(ranked by total revenue)

| State | Flat Fee | Tax Based on Sales | Population (in millions) | Total Revenue (for most recent year available) | Exemption for lower revenue businesses |
|--------------|----------|--------------------|--------------------------|--|--|
| New Jersey | | X | 9.3 | \$20 Million | X |
| Washington | | X | 7.7 | \$15 Million | |
| Ohio | | X | 11.8 | \$10 Million | |
| Tennessee | | X | 6.9 | \$5.5 Million | |
| Virginia | X | | 8.6 | \$3.4 Million | |
| Nebraska | | X | 1.92 | \$1.5 Million | |
| Rhode Island | | X | 1.1 | \$1 Million | |
| New Mexico | X | | 2.1 | \$789,802 | |

Recommendations

Clean Virginia Waterways recommends the following actions to strengthen the ability of cities, counties, and incorporated towns in Virginia to fund litter prevention and recycling programs.

Clean Virginia Waterways Recommendations to Improve the Litter Control and Recycling Fund

- 1 Tie the Virginia litter tax to inflation and adjust every 5 years
- 2 Increase the percentage of the beer and wine cooler excise tax dedicated to the Litter Fund from 2% to 6%
- 3 Include all non-alcoholic beverages in the soft drink excise tax and increase the rate at which the soft drink excise tax is imposed
- 4 Provide exemptions for low volume/small businesses
- 5 Allow nonprofit organizations and university/college researchers to apply for the competitive grants
- 6 Add a \$0.50 cigarette litter abatement fee for every pack of cigarettes sold in Virginia
- 7 Create and support a statewide litter prevention and "cover your load" campaign

1. Tie the Virginia litter tax to inflation and adjust every 5 years.

Since one of the three funding mechanisms of Virginia's Litter Fund is a set fee generated through the litter tax, it is harder for Virginia's litter tax to keep pace with inflation. To improve Virginia's Litter Fund, the litter tax should be linked to inflation and the fee should be "right-sized" every five years.

"If the litter tax and soft drink excise tax had kept pace with inflation, millions of dollars would be available to communities"

2. Increase Beer and Wine Cooler Excise Tax Percentage

Increase the percentage of the beer and wine cooler excise tax dedicated to the Litter Control and Recycling Fund from 2% to 6%.

3. Adjust the Soft Drink Excise Tax

- i. Include all non-alcoholic beverages to include all common beverage containers such as water (sparkling, flavored, and still), sports drinks, teas, coffee, energy drinks, and others.
- ii. Increase the rate at which the soft drink excise tax is imposed. Like the original litter tax, it has never been raised since its inception in 1977 (See Table 2 on page 6). To adjust the soft drink excise tax, each level of the fee structure should be increased by a factor of three: the \$50 fee would be raised to \$150, the \$33,000 fee would be raised to \$99,000.

- iii. Just as the litter tax should be linked to inflation, the soft drink excise tax should be linked to inflation and "right-sized" every five years.

4. Exemptions for low volume/small businesses

As Virginia looks to increase funding for the Litter Fund, best practices can be adopted from across the country. New Jersey's litter fee generates \$20 million annually and is able to do so while providing exemptions to small businesses.

5. Allow nonprofit organizations and university/college researchers to apply for the competitive grants

Nonprofit organizations and Virginia's institutions of higher education are valuable partners in combating the plastic pollution crisis. Opening the Virginia Litter Fund's competitive grants to nonprofits and higher education researchers would help place Virginia at the forefront of ending the plastic pollution crisis. Virginia is home to the Virginia Institute of Marine Science—one of the leading research institutions in the country undertaking groundbreaking plastic pollution and microplastic research. If funding for the litter tax were increased, it could provide a source of funding for this important research as well as similar research underway at other Virginia universities. Likewise, dozens of local, regional and statewide organizations have litter prevention as part of their missions. They too should be allowed to compete for grants that are funded by the Virginia Litter Tax. The Tennessee Aquarium river litter exhibits would not have been a possibility if the Tennessee Litter Grant Program limited potential recipients as Virginia does.

6. \$0.50 cigarette litter abatement fee for every pack of cigarettes sold in Virginia

Cigarettes are the most common piece of litter found during cleanup events in Virginia, and cleaning them up can get expensive for cities. In 2009, San Francisco estimated they were spending \$6 million every year to clean up cigarette butts. In response, the city implemented a regularly increasing cigarette litter abatement fee to every pack of cigarettes sold. This fee provides over \$3 million every year for dedicated funding to clean up cigarette litter. There is bipartisan support in Virginia for cigarette litter abatement fees. According to a 2022 survey of voters done by Clean Virginia Waterways and the Virginia Coastal Zone Management Program, 64% of Virginia voters would support a \$0.50 litter abatement fee added to the purchase price of a pack of cigarettes. Revenue from the cigarette litter abatement fee should be another funding mechanism for the Litter Fund.

7. Statewide litter prevention and “cover your load” campaigns

Up to 80% of ocean plastic pollution originates on land (Sheavly, 2010), yet Virginia does not have a statewide cohesive campaign to address the various sources of litter and mis-managed solid waste. A “right sized” litter tax in Virginia could support a statewide campaign, just as New Jersey and Washington state support their campaigns. Like other states, a statewide Virginia campaign can focus on reducing barriers, making it easier for people to reuse, recycle, and reduce the amount of waste they are creating.

The Virginia Marine Debris Reduction Plan calls for a statewide unified litter prevention campaign based on social marketing principles. Such a campaign should include a statewide “cover your load” campaign to create an informed public and an enforceable policy. Virginia does have a law (§ 46.2-1156) which requires that transported debris be covered, but localities in Virginia are forced to develop their own strategy to spread the message to their residents. A statewide cover your load campaign will help spread awareness about Virginia law and reduce plastic pollution on roadways. Washington state has an excellent statewide cover your load campaign that can serve as a model. The Virginia Marine Debris Reduction Plan also supports the development of social marketing campaigns to reduce marine debris from specific sources such as plastic bags, food and beverage items, cigarette butts (Register, McKay, Witmer, 2021)

Conclusion

Despite being underfunded, Virginia's cities and counties have done praise-worthy work with grants from the Virginia Litter Fund. But the current funding levels are not scaled to appropriately address the challenges of the coming decades as single-use plastic production increases significantly. Virginia has the opportunity to adopt best practices from across the United States to improve funding for the Virginia Litter Fund. Reimagining the funding mechanism for the Litter Fund would bolster existing programs in the Commonwealth and open new avenues for research and public outreach, cementing Virginia as a leader in the fight against plastic pollution.

Clean Virginia Waterways believes that for the programs supported by the Virginia Litter Fund to be most effective, public policies that reduce plastic pollution at its source must be a critical element. A "right-sized" Virginia Litter Fund is just one component of a multi-layered approach that, along with improved solid waste management, economic incentives to increase recycling, and expanded manufactures' responsibilities, can reduce the burden on local governments, improve environmental health, and support a thriving economy.



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*Debris from homeless encampment, Hampton, VA.
Photo by Hampton Clean City Commission*

Appendix A

Text of Virginia Litter Tax

§ 58.1-1707. Tax levied.

A. There is hereby levied and imposed upon every person in the Commonwealth engaged in business as a manufacturer, wholesaler, distributor or retailer of products enumerated in § 58.1-1708 an annual litter tax of \$20 for each establishment from which such business is conducted. However, the tax under this subsection shall not be imposed on an individual who raises and sells agricultural produce, as defined in § 3.2-4738, and an individual who sells eggs, as described in § 3.2-5305, in local farmers markets or at roadside stands provided that his annual income from such sales does not exceed \$1,000, and that any container he provides to hold purchased items has been previously used.

B. In addition to the tax levied in subsection A, each person engaged in business as a manufacturer, wholesaler, distributor or retailer of products enumerated in category 2, 4 or 5 of § 58.1-1708 shall pay an additional annual litter tax of \$30 for each establishment from which such business is conducted. However, the tax under this subsection shall not be imposed on an individual who raises and sells agricultural produce, as defined in § 3.2-4738, and an individual who sells eggs, as described in § 3.2-5305, in local farmers markets or at roadside stands provided that his annual income from such sales does not exceed \$1,000, and that any container he provides to hold purchased items has been previously used.

C. For purposes of the tax levied in this section, a vending machine shall not be deemed a separate establishment. Any person engaged in the business of selling goods, wares and merchandise through the use of coin-operated vending machines shall pay an annual litter tax only with respect to each establishment from which goods, wares or merchandise are stored, kept or assembled for purposes of supplying such vending machines.

Code 1950, § 10-201.1; 1976, c. 757; 1977, c. 616; 1981, c. 173; 1984, c. 675; 2011, c. 466; 2020, c. 782. Source: <https://law.lis.virginia.gov/vacode/title58.1/chapter17/section58.1-1707/>

Also see § 10.1-1422.01. Litter Control and Recycling Fund established; use of moneys; purpose of Fund. <https://law.lis.virginia.gov/vacode/title10.1/chapter14/section10.1-1422.01/>

Appendix B

Litter Prevention & Recycling Fund Revenue History

| Fiscal Year | Litter Tax | Litter award refund from locality | Beer Tax | Soft Drink Tax | Interest Earned | Total Revenue | % Change |
|-------------|------------|-----------------------------------|-----------|----------------|-----------------|---------------|----------|
| 1981 | \$98,854 | | \$613,363 | \$134,567 | | \$846,784 | |
| 1982 | \$373,458 | | \$623,766 | \$150,767 | | \$1,147,991 | 36% |
| 1983 | \$437,725 | | \$635,123 | \$128,347 | | \$1,201,195 | 5% |
| 1984 | \$423,725 | | \$657,871 | \$126,665 | | \$1,208,261 | 1% |
| 1985 | \$437,263 | | \$666,763 | \$125,868 | | \$1,229,894 | 2% |
| 1986 | \$492,602 | | \$676,865 | \$165,238 | | \$1,334,705 | 9% |
| 1987 | \$505,305 | | \$713,746 | \$152,597 | | \$1,371,648 | 3% |
| 1988 | \$561,699 | | \$728,467 | \$143,274 | | \$1,433,440 | 4.5% |
| 1989 | \$570,403 | | \$728,656 | \$139,527 | | \$1,438,586 | 0.4% |
| 1990 | \$614,213 | | \$735,521 | \$154,335 | | \$1,504,069 | 4.6% |
| 1991 | \$598,669 | | \$736,557 | \$134,644 | | \$1,469,870 | -2.3% |
| 1992 | \$579,005 | | \$719,686 | \$188,102 | | \$1,486,793 | 1.2% |
| 1993 | \$585,667 | | \$722,923 | \$130,312 | | \$1,438,902 | -3.2% |
| 1994 | \$617,028 | | \$731,806 | \$163,312 | | \$1,512,146 | 5.1% |
| 1995 | \$631,021 | | \$725,043 | \$156,656 | | \$1,512,720 | 0.0% |
| 1996 | \$617,638 | | \$727,241 | \$138,859 | | \$1,483,738 | -1.9% |
| 1997 | \$735,511 | | \$764,781 | \$104,940 | \$42,555 | \$1,647,787 | 11.1% |
| 1998 | \$807,542 | | \$779,494 | \$183,059 | \$78,610 | \$1,848,705 | 12.2% |
| 1999 | \$820,467 | | \$798,914 | \$124,670 | \$91,254 | \$1,835,305 | -0.7% |
| 2000 | \$770,105 | | \$814,610 | \$110,001 | \$88,966 | \$1,783,682 | -2.8% |
| 2001 | \$742,824 | | \$819,288 | \$138,144 | \$99,401 | \$1,799,657 | 0.9% |

| Fiscal Year | Litter Tax | Litter award refund from locality | Beer Tax | Soft Drink Tax | Interest Earned | Total Revenue | % Change |
|---------------|---------------------|-----------------------------------|---------------------|--------------------|------------------|---------------------|----------|
| 2002 | \$743,422 | | \$839,425 | \$101,836 | \$64,198 | \$1,748,881 | -2.8% |
| 2003 | \$717,696 | | \$835,122 | \$126,745 | \$49,498 | \$1,729,061 | -1.1% |
| 2004 | \$792,355 | | \$860,932 | \$209,955 | \$14,005 | \$1,877,247 | 8.6% |
| 2005 | \$1,253,920 | | \$852,600 | \$202,208 | \$13,318 | \$2,322,046 | 23.7% |
| 2006 | \$873,294 | | \$876,729 | \$181,007 | \$43,654 | \$1,974,684 | -15% |
| 2007 | \$867,193 | | \$880,168 | \$218,646 | \$61,665 | \$2,027,672 | 2.7% |
| 2008 | \$869,778 | | \$888,228 | \$207,811 | \$38,911 | \$2,004,728 | -1.1% |
| 2009 | \$879,168 | | \$889,890 | \$199,427 | | \$1,968,485 | -1.8% |
| 2010 | \$975,721 | | \$888,054 | \$200,062 | | \$2,063,837 | 4.8% |
| 2011 | \$844,640 | | \$876,500 | \$172,174 | | \$1,893,314 | -8.3 |
| 2012 | \$912,581 | | \$877,053 | \$190,184 | | \$1,979,818 | 4.6% |
| 2013 | \$836,776 | | \$863,910 | \$191,913 | | \$1,892,600 | -4.4% |
| 2014 | \$867,195 | | \$854,276 | \$200,657 | | \$1,922,128 | 1.6% |
| 2015 | \$898,504 | | \$846,111 | \$210,902 | | \$1,955,516 | 1.7% |
| 2016 | \$906,404 | | \$781,850 | \$219,459 | \$8,902 | \$1,916,615 | -2% |
| 2017 | \$1,004,205 | | \$845,861 | \$174,136 | \$15,923 | \$2,040,126 | 6.4% |
| 2018 | \$1,108,654 | | \$832,240 | \$168,730 | \$22,770 | \$2,132,393 | 4.5% |
| 2019 | \$664,102 | | \$829,889 | \$174,807 | \$31,813 | \$1,700,611 | -20.2% |
| 2020 | \$878,294 | \$12,047 | \$769,390 | \$216,842 | \$35,199 | \$1,911,773 | 12.4% |
| 2021 | \$1,597,403 | \$6,000 | \$928,483 | \$233,426 | \$12,551 | \$2,777,863 | 45.3% |
| 2022 | \$2,313,712 | \$10,995 | \$810,789 | \$228,827 | \$5,898 | \$3,370,222 | 21.3% |
| Totals | \$32,825,742 | \$29,042 | \$33,047,984 | \$7,023,637 | \$819,093 | \$73,745,498 | |

Opportunities to Reduce Plastic Pollution:

Policy Recommendations & Best Practices
for the Virginia Litter Fund